





UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

DATE MAILED: 07/22/2004

ATTORNEY DOCKET NO. APPLICATION NO. FILING DATE FIRST NAMED INVENTOR CONFIRMATION NO. 09/624,798 07/24/2000 Paul C Coffin 10001664-1 6517 22879 7590 07/22/2004 **EXAMINER** HEWLETT PACKARD COMPANY WATKO, JULIE ANNE P O BOX 272400, 3404 E. HARMONY ROAD ART UNIT PAPER NUMBER INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400 2652

Please find below and/or attached an Office communication concerning this application or proceeding.

	Augliochion No.	I A U A()
Office Action Summary	Application No.	Applicant(s)
	09/624,798	COFFIN ET AL.
	Examiner	Art Unit
	Julie Anne Watko	2652
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply		
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).		
Status		
1)⊠ Responsive to communication(s) filed on <u>12 March 2004</u> .		
2a) ☐ This action is FINAL . 2b) ☑ This		
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.		
Disposition of Claims		
 4) Claim(s) 1-6 and 10-20 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) is/are allowed. 6) Claim(s) 1-6 and 10-20 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement. 		
Application Papers		
9) The specification is objected to by the Examiner.		
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.		
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).		
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.		
Priority under 35 U.S.C. § 119		
 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 		
Attachment(s)		
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date	4) Interview Summary Paper No(s)/Mail Da 5) Notice of Informal P 6) Other:	
C Palant and Tard and Office		

Art Unit: 2652

DETAILED ACTION

1. In view of the appeal brief filed on March 12, 2004, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
 - (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 3. Claims 1-2, 4-5, 14-15, 17 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Pilgrim (Build Your Own 486/486DX, 1995, New York: McGraw-Hill, Inc.).

As recited in independent claim 1, Pilgrim shows a reconfigurable cartridge processing module for use in a data storage system, comprising: a frame (see Fig. 11-13 on page 213, for example), said frame having a lower plate (see Fig. 11-13) and an upper plate (see cover illustration) positioned in generally parallel, spaced-apart relation, said lower and upper plates of

said frame having a plurality of sets of mounting locations (bays and parts of bays, for example) provided thereon so that said frame defines a first component configuration (combo drive installed) and a second component configuration (single floppy drive installed), the first component configuration comprising: a first cartridge receiving device (3½ inch floppy drive, for example) mounted to a first set (upper part of the bay) of the plurality of sets of mounting locations provided on said frame so that said first cartridge receiving device is located at a first position within said frame; and a second cartridge receiving device (5\\mathbb{4} inch floppy drive, for example) mounted to a second set (lower part of the bay) of the plurality of sets of mounting locations provided on said frame so that said second cartridge receiving device is located at a second position within said frame, said first and second cartridge receiving devices together (see Fig. 5-2 on page 68) occupying a volumetric space within said frame, wherein said first and second cartridge receiving devices are located substantially between the upper and lower plates of said frame when said frame is in the first component configuration; the second component configuration comprising a third cartridge receiving device mounted to a third set of the plurality of sets of mounting locations provided on said frame, said third cartridge receiving device ("old 360K floppy disk drive", see page 219) occupying substantially the same volumetric space ("combination drive requires only a single drive bay", see page 67) within said frame as is occupied by said first and second cartridge receiving devices in said first component configuration ("pull out the old drives and install 1.2 Mb and 1.44 Mb drives, or a combination drive that has both", see page 219, for example), wherein said third cartridge receiving device is located substantially between the upper and lower plates of said frame when said frame is in the second component configuration.

Application/Control Number: 09/624,798 Page 4

Art Unit: 2652

As recited in independent claim 14, Pilgrim shows a reconfigurable cartridge processing module for use in a data storage system, comprising: a frame (see Fig. 11-13 on page 213, for example), said frame having a lower plate and an upper plate positioned in generally parallel, spaced-apart relation (all cases illustrated in the reference are parallelepiped shaped, having a plurality of parallel plate pairs), said lower and upper plates of said frame having a plurality of sets of mounting locations (bays and parts of bays) provided thereon so that said frame defines a first component configuration (combo drive installed) and a second component configuration (single floppy drive installed), the first component configuration comprising: first cartridge receiving means (3½ inch floppy drive, for example) mounted to said frame for receiving at least one data cartridge; and second cartridge receiving means (51/4 inch floppy drive, for example) mounted to said frame for receiving said at least one data cartridge, wherein said first and second cartridge receiving means are located substantially between the upper and lower plates of said frame when said frame is in the first component configuration; the second component configuration comprising third cartridge receiving means ("old 360K floppy disk drive", see page 219) mounted to said frame for receiving said at least one data cartridge, said third cartridge receiving means in said second component configuration replacing said first and second cartridge receiving means in said first component configuration and vice-versa ("pull out the old drives and install 1.2 Mb and 1.44 Mb drives, or a combination drive that has both", see page 219, for example) so that a volumetric space (bay) occupied by said first and second cartridge receiving means in said first configuration is substantially occupied by said third cartridge receiving means in said second configuration and vice-versa, wherein said third cartridge receiving means is

located substantially between the upper and lower plates of said frame when said frame is in the second component configuration.

As recited in independent claim 20, Pilgrim shows a method, comprising: providing a frame (see Fig. 11-13 on page 213, for example) having a lower plate and an upper plate positioned in generally parallel, spaced-apart relation, said lower and upper plates of said frame having a plurality of sets of mounting locations (bays and parts of bays) thereon; defining a first component configuration (combo drive installed) by mounting a first cartridge receiving device (3½ inch floppy drive, for example) to a first set (part of bay) of the plurality of sets of mounting locations provided on said frame and by mounting a second cartridge receiving device (51/4 inch floppy drive, for example) to a second set (part of bay) of the plurality of sets of mounting locations provided on said frame so that the second cartridge receiving device is located adjacent the first cartridge receiving device (see Fig. 5-2 on page 68, for example), wherein said first and second cartridge receiving devices are located substantially between the upper and lower plates of said frame when said frame is in the first component configuration; or, in the alternative, defining a second component configuration (single floppy drive installed) by mounting a third cartridge receiving device ("old 360K floppy disk drive", see page 219) to a third set (bay) of the plurality of sets of mounting locations provided on said frame, said third cartridge receiving device in the second component configuration substantially replacing said first and second cartridge receiving devices in the first component configuration and vice-versa ("pull out the old drives and install 1.2 Mb and 1.44 Mb drives, or a combination drive that has both", see page 219, for example), so that a volumetric space (bay) occupied by said first and second cartridge receiving devices in the first component configuration is substantially occupied by said third

Application/Control Number: 09/624,798 Page 6

Art Unit: 2652

cartridge receiving device in the second component configuration and vice-versa, wherein said third cartridge receiving device is located substantially between the upper and lower plates of said frame when said frame is in the second component configuration.

As recited in claims 2 and 17, Pilgrim shows that said first cartridge receiving device comprises a half-width cartridge read/write device (each drive of the combo drive is half-width insofar as it occupies substantially half of the space of the old floppy disk drive).

As recited in claim 4, Pilgrim shows that said third cartridge receiving device comprises a full-width cartridge read/write device ("old 360K floppy disk drive", see page 219).

As recited in claim 19, Pilgrim shows that said third cartridge receiving means comprises cartridge read/write means for reading data from and writing data to said at least one data cartridge ("old 360K floppy disk drive", see page 219).

As recited in claims 5 and 15, Pilgrim shows that the second position is located adjacent the first position ("combination drive requires only a single drive bay", see page 67) so that said second cartridge receiving device is located adjacent (see Fig. 5-2 on page 68) said first cartridge receiving device when said frame is in the first component configuration.

Claim Rejections - 35 USC § 103

- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

Art Unit: 2652

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 6, 10-11, 13 and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pilgrim (<u>Build Your Own 486/486DX</u>, 1995, New York: McGraw-Hill, Inc.).

As recited in independent claim 10, Pilgrim shows a reconfigurable cartridge processing module for use in a data storage system, comprising: a frame (see Fig. 11-13 on page 213, for example), said frame having a lower plate and an upper plate (all cases illustrated in the reference are parallelepiped shaped, having a plurality of parallel plate pairs) positioned in generally parallel, spaced-apart relation, said lower and upper plates of said frame having a plurality of sets of mounting locations (bays and parts of bays, for example) provided thereon so that said frame defines a first component configuration (combo drive installed) and a second component configuration (single floppy drive installed), the first component configuration comprising: a first cartridge receiving device (3½ inch floppy drive, for example) mounted to a first set (part of bay) of the plurality of sets of mounting locations provided on said frame so that said first cartridge receiving device is located at a first position within said frame; and a second cartridge receiving device (5¼ inch floppy drive, for example) mounted to a second set (other part of bay) of the plurality of sets of mounting locations provided on said frame so that said second cartridge receiving device is located at a second position within said frame, the second

Art Unit: 2652

Page 8

position being located adjacent the first position so that said second cartridge receiving device is located alongside (insofar as the computer frame may be rotated on its side and still function) said first cartridge receiving device, wherein said first and second cartridge receiving devices are located substantially between the upper and lower plates of said frame when said frame is in the first component configuration; the second component configuration comprising a third cartridge receiving device ("old 360K floppy disk drive", see page 219) mounted to a third set (bay) of the plurality of sets of mounting locations provided on said frame, said third cartridge receiving device in said second component configuration substantially replacing said first and second cartridge receiving devices in said first component configuration and vice-versa, so that a volumetric space occupied by said first and second cartridge receiving devices in said first component configuration is substantially occupied by said third cartridge receiving device in said second component configuration and vice-versa ("pull out the old drives and install 1.2 Mb and 1.44 Mb drives, or a combination drive that has both", see page 219, for example), wherein said third cartridge receiving device is located substantially between the upper and lower plates of said frame when said frame is in the second component configuration.

As recited in claims 6 and 16, Pilgrim shows that the second position is located alongside the first position so that said second cartridge receiving device is located alongside said first cartridge receiving device when said frame is in the first component configuration (insofar as the computer frame may be rotated on its side and still function).

Even if Pilgrim were interpreted so as not to anticipate the "alongside" limitation, however, the "alongside" limitation would have been obvious when replacing an old drive with a

Art Unit: 2652

combination drive in a known computer desktop frame having vertically oriented bays for conserving desk space.

Regarding claim 11: See teachings above for claims 2 and 17.

Regarding claim 13: See teachings above for claim 4.

7. Claims 3, 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pilgrim (Build Your Own 486/486DX, 1995, New York: McGraw-Hill, Inc.) in view of Menke et al (US Pat. No. 5841744).

As recited in claims 3, 12 and 18, Pilgrim is silent regarding a said second cartridge receiving device comprises a cartridge storage magazine.

As recited in claims 3, 12 and 18, Menke et al show said second cartridge receiving device is a cartridge storage magazine ("disc magazines 4", see col. 13, line 21). As recited in the independent claims, Menke et al show a first configuration (see Fig. 13) with first and second cartridge receiving devices 4, and a second configuration comprising a third cartridge receiving device ("tower", see col. 13, line 31; see also Fig. 15), wherein said third cartridge receiving device (tower) in said second component configuration substantially replacing said first and second cartridge receiving devices (4 and 4, for example) in said first component configuration and vice-versa, so that a volumetric space occupied by said first and second cartridge receiving devices in said first component configuration is substantially occupied by said third cartridge receiving device in said second component configuration and vice-versa.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the tower with the magazines and vice versa. The rationale is as follows: one of ordinary skill in the art would have been motivated to provide a module with a desired

number of drives and magazines in order to achieve a desired storage capacity and reproduction rate so as to adapt to changing host requirements by interchanging drive and media modules as is notoriously well known in the art (see arguments below).

Response to Arguments

8. Applicant's arguments with respect to claims 1-6 and 10-20 have been considered but are not fully persuasive.

On page 15, Applicant argues "that when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. *In re Kotzab*, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000)." The Examiner has considered this argument thoroughly and asserts that "The motivation, suggestion or teaching may come explicitly from statements in the prior art, the **knowledge of one of ordinary skill in the art**, or, in some cases the **nature of the problem** to be solved." *In re Kotzab*, 55 USPQ2d 1313, 1317 (**emphasis added**), citing *Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. Clearly, motivation may come from sources other than the references relied upon. The sources include knowledge already possessed by one of ordinary skill in the art.

Motivation is not needed for the new anticipation rejections under 35 U.S.C. 102(b).

Motivation, however, is relevant to the new obviousness rejections under 35

U.S.C. 103(a). As evidence of the knowledge already possessed by one of ordinary skill in the art, the Examiner presents the teachings of the prior art of record, regardless whether relied upon.

For example, Kersey et al (US Pat. No. 5870245) teaches that "system flexibility of tape and other storage media libraries is highly desirable. ... It is also desirable to provide system flexibility which allows the use of drive, media, and combination drive/media modules, and

Art Unit: 2652

which allows easy interchangeability of the modules to adapt to changing host system requirements." See Kersey et al, col. 1, lines 53-62.

As a further example, Dankman et al (US Pat. No. 5491609) teaches that computer systems with "many functions" are widely used. See Dankman et al, col. 1, lines 42-44.

Dankman et al also teaches that it is desirable for computers to provide flexibility to users by providing "capability to change their configuration by simply sliding an external module of any size, for example, a CD-ROM module or GPS module, into an external docking bay on a computer that transforms the computer (with the added module) into a new system with enhanced functionality." See Dankman et al, col. 2, lines 15-22 (emphasis added).

It is clear from the prior art of record, taken as a whole, that providing flexibility for interchange of parts to meet user needs was within the knowledge of a person of ordinary skill in the art at the time Applicant's disclosure was made.

On page 17, Applicant argues "that a patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. ... The present invention recognizes a problem of storage utilization if a full-width cartridge receiving device is replaced with a half-width device. Namely, such a replacement leaves space unused. The present invention recognizes that this is a problem and solves it by providing a reconfigurable cartridge processing module that defines two component configurations. One of the component configurations allows a full-width cartridge receiving device to be mounted to the cartridge processing module. The other component configuration allows two half-width cartridge storage devices to be mounted to the cartridge processing module while occupying substantially the same volumetric space. As a consequence, the data

Art Unit: 2652

cartridge storage capacity of the data storage system is increased without adding any additional volumetric space to the data storage system. ... Menke does not even recognize this problem, much less disclose a solution to it that meets the limitations of claim 1." The Examiner has considered this argument thoroughly and asserts that Pilgrim shows all the limitations of claim 1, such that claim 1 is anticipated. Moreover, both the particular problem of space conservation, and the particular solution of installing two devices (see Fig. 5-2) occupying substantially the same space (one bay) as a single device, have been recognized by Pilgrim. See page 67, "This combination drive requires only a single drive bay." See also page 219, "I would pull out the old drives and install 1.2 Mb and 1.44 Mb drives, or a combination drive that has both."

Furthermore, regarding claims 3, 12 and 18, Menke et al (US Pat. No. 5841744) show two embodiments (see Fig. 13 and 15, for example) of a cartridge processing module. One embodiment (see Fig. 15) shows a single cartridge processing device ("tower", see Menke et al, col. 13, line 31) full-width (having the same height as the two left-side disc magazines 4", see col. 13, lines 32-33). Another embodiment (see Fig. 13) shows substantially the same volumetric space occupied by two half-height cartridge processing devices ("two superposed disc magazines 4", see col. 13, lines 20-21). Although Menke et al do not explicitly disclose these two embodiments as two configurations of the same module frame, the replacement concept is mentioned ("disc magazine 4 on the right side is replaced by further running gears 5", see col. 13, lines 30-31). Moreover, the concept of interchanging components within any frame is explicitly taught by Pilgrim (see page 12, "components are all interchangeable"). Furthermore, interchanging computer components is so easy that even less than ordinary skill in the art is required. See Pilgrim, page xiv (emphasis added), which states "It is very easy to assemble a

486. You don't have to be an engineer to do it. ... Once you have purchased all of the components, it should take you no more than an hour to assemble your computer. Anyone can do it. I will show you how easy it is." See also the cover of Pilgrim, which states "NO EXPERIENCE OR SPECIAL TOOLS REQUIRED". If interchanging components is within the skills of "Anyone" with "NO EXPERIENCE", then it is necessarily within the skills of a person of ordinary skill in the art. Thus, changing configuration from one Menke et al embodiment to another is both obvious and within the level of ordinary skill in the art.

Arguments not addressed are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Offerman et al (US Pat. No. 6353581 B1) teach (emphasis added) that "Those skilled in the art will appreciate that the media element library 10 may be of many different configurations. It may, for example, comprise multiple media element readers 14 and media element magazines 16 depending on the sophistication of data processing and storage desired. Alternatively, the library may contain only a media element magazine and no media element reader. In embodiments having no media element reader, the library 10 may be provided with an automatic transfer mechanism to transfer media elements to another module or portion of a library that includes a media element reader. One example of a media element library which includes separate modules for media elements and media element readers is provided by U.S. Pat. No. 5,285,333 to Barr et al." See col. 3, lines 14-27.

Art Unit: 2652

Barr et al (US Pat. No. 5285333) teach that "the storage and drive modules 12 and 13 have a height, width and length that permits them to be readily slid into the rack 14 and secured to the side rails thereof via screws 28. Each storage module 12 has a front panel 30 which completely encloses and protects the robot and carrousels. Each drive module 13 has a similar front panel 32. Our mass storage system may include a single storage module 12, a single drive module 13 and a single robot 16 mounted within a single rack 14. As the user's library requirements expand, additional storage and drive modules may be added to the rack. Further expansion of the system may be accomplished by adding additional racks including additional storage and tape drive modules." See col. 3, lines 9-23.

TEAC FD-505 ("The Dual Drive: TEAC Redefines the Refined Drive", 1992) shows that a combo drive (such as that shown in Pilgrim) is substantially the same volumetric size as a single floppy drive (see picture).

"Dual FDD specification" (1992) discloses that "FD-505 has two drives in the size of a conventional 41mm high 5.25 inch drive (equivalent to the TEAC FD-55GF)" (see outline, page 1).

TEAC FD505 Combo Drive installation manual (March 1, 1994) provides instructions for installing the combo drive "into any available bay" (see page 6).

TEAC FD-505 Combination Floppy Drive (November 1992, PC World, v. 10, no. 11, pp. 114-115) teaches that a combination drive is desirable so that "Your uploading, downloading, and wheedling days could be a thing of the past", see p. 114, col. 3, last full paragraph.

Information regarding the status of an application may be obtained from the Patent
 Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (703) 305-7742. The examiner can normally be reached on Monday-Thursday, 9AM-5PM, Friday 9AM-7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

> Julie Anne Watko **Primary Examiner**

July 14, 2004 **JAW**

Art Unit 2652